Spectroscopic Imaging & Diagnosis of Neoplasia

(National Cancer Institute)

TMS/LSS Instrumentation and Analysis Tools
Feld (MIT)

Quasi-Multiple Scattering in Multi-Layered Tissue
Backman (Northwestern)

HPV-Based Spectroscopic Markers, *Munger (HMS), Georgakoudi (MGH)*

LSS Imaging

TMS Diagnosis

Clinical Validation & Biological Correlation

Oral Dysplasia
Shapshay (BMC)

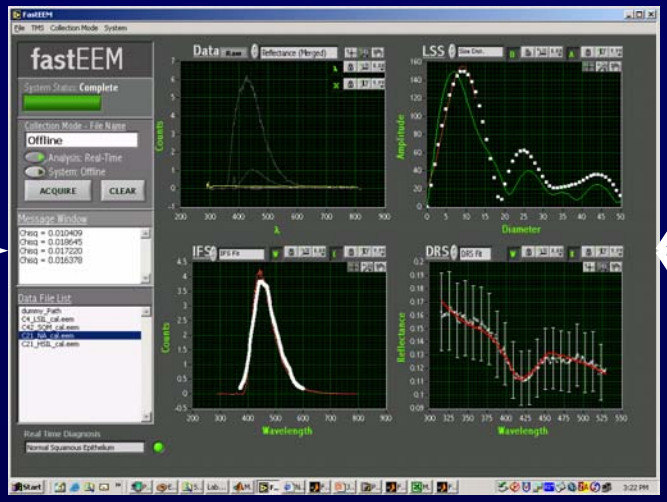
Cervical Dysplasia
Feldman & Crum (BWH)

Quantitative Pathology
Badizadegan (MGH)

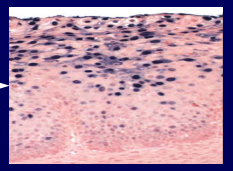
Spectroscopic Imaging & Diagnosis of Neoplasia

Real-Time "Spectral Diagnosis"

Optical Probe
"Spectral Biopsy"

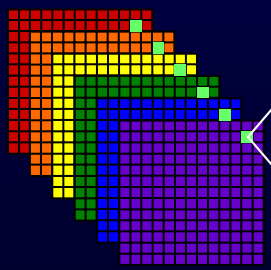


Expert
Histopathology

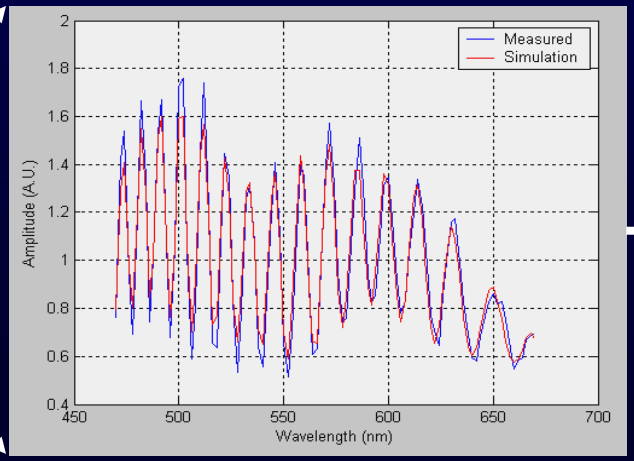


Molecular
Diagnostics

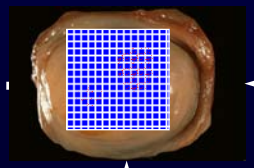
Quantitative
Morphometry



LSS Image
(470-670 nm at 2 nm steps)



Model Fit to data for
5 nm beads in water



Spectral
Markers
Of HPV

Multiple
Scattering
Algorithms